

Fig.1

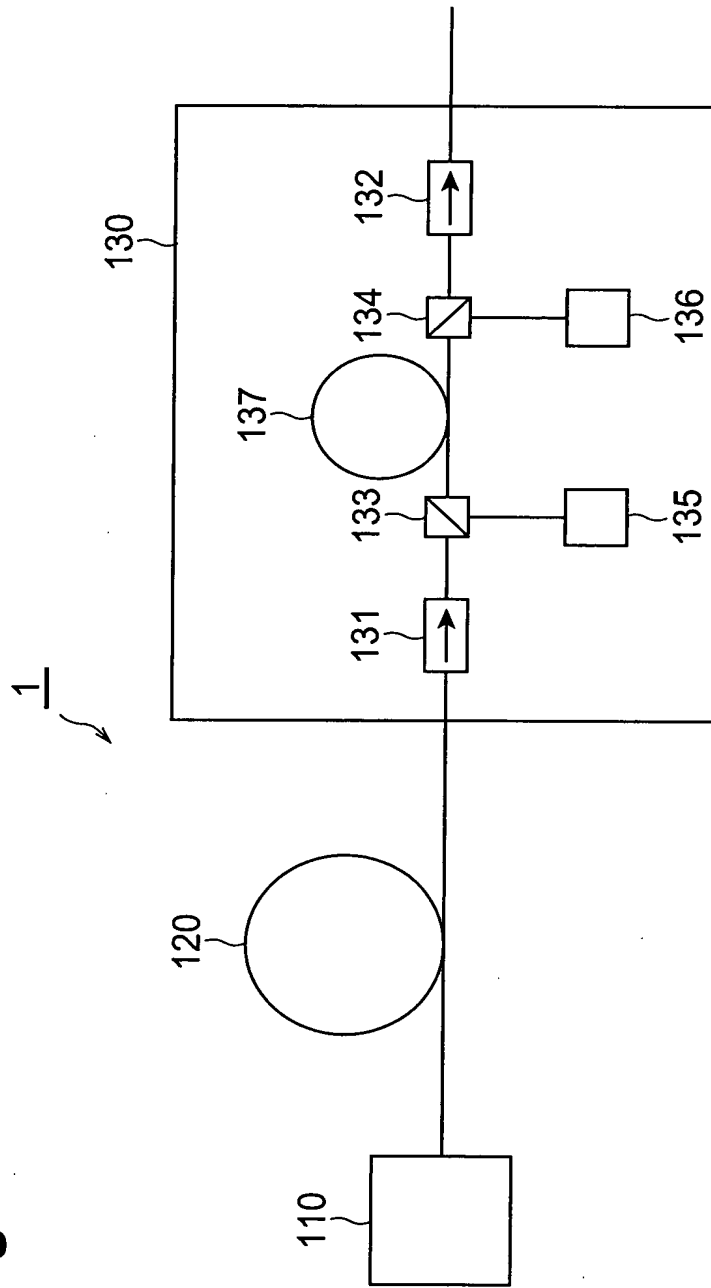


Fig. 2A

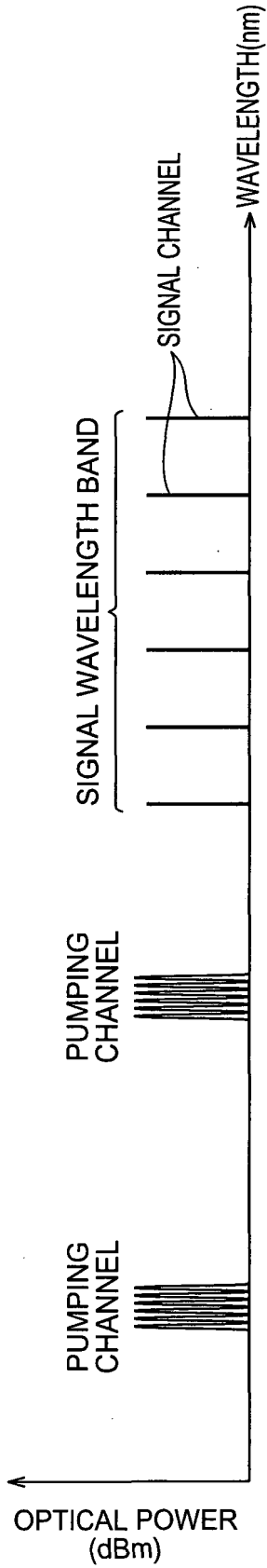


Fig. 2B

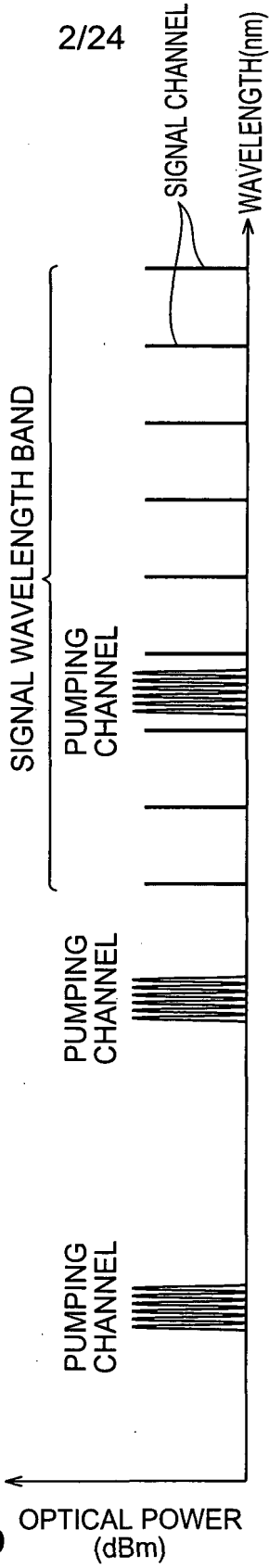


Fig. 2C

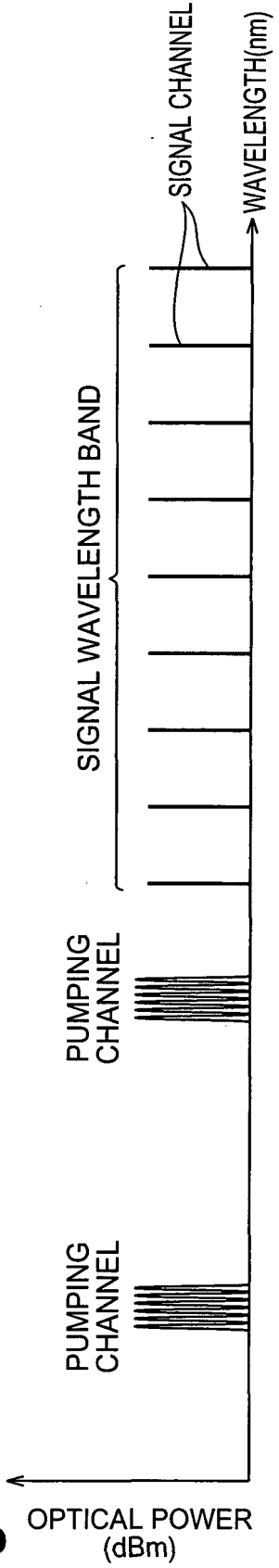


Fig.3

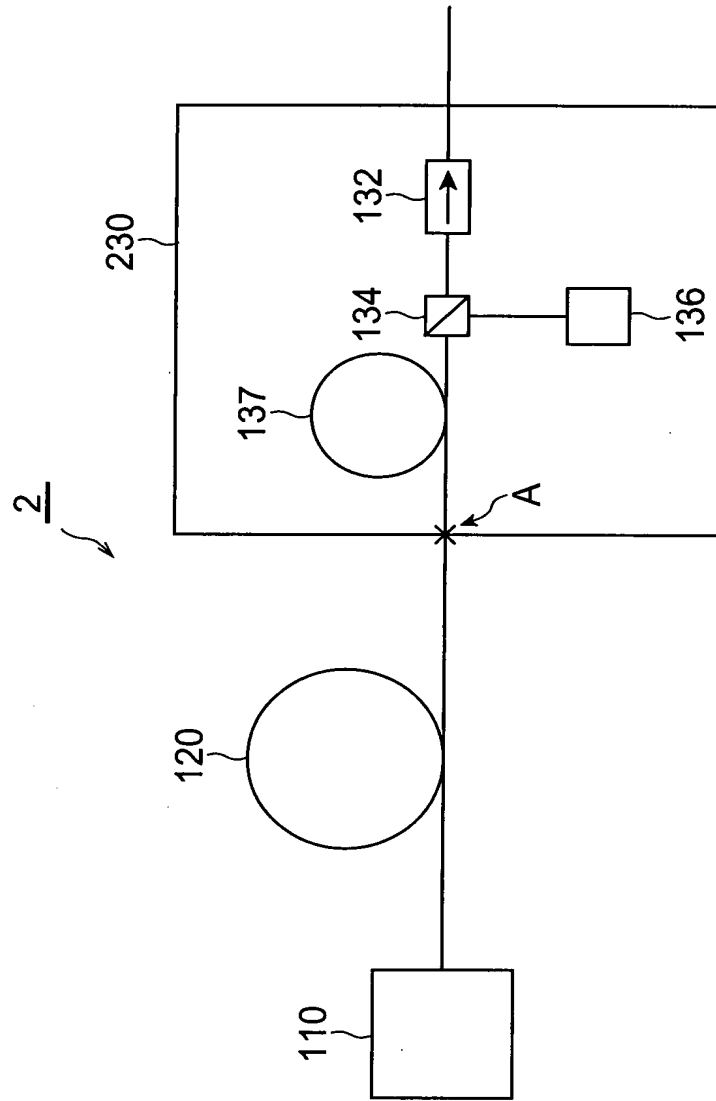


Fig.4

3 ↗

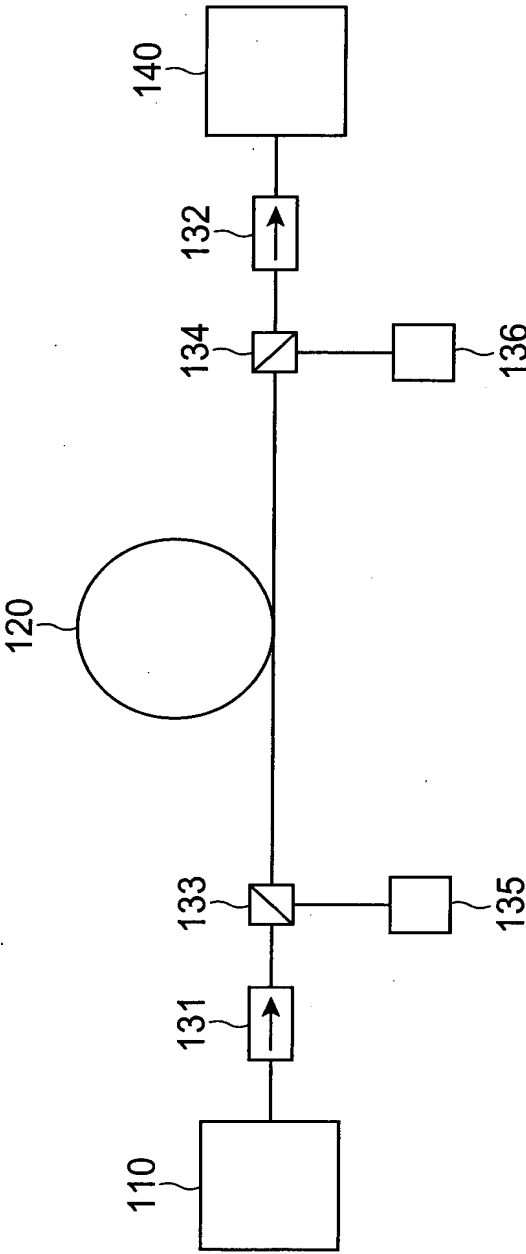
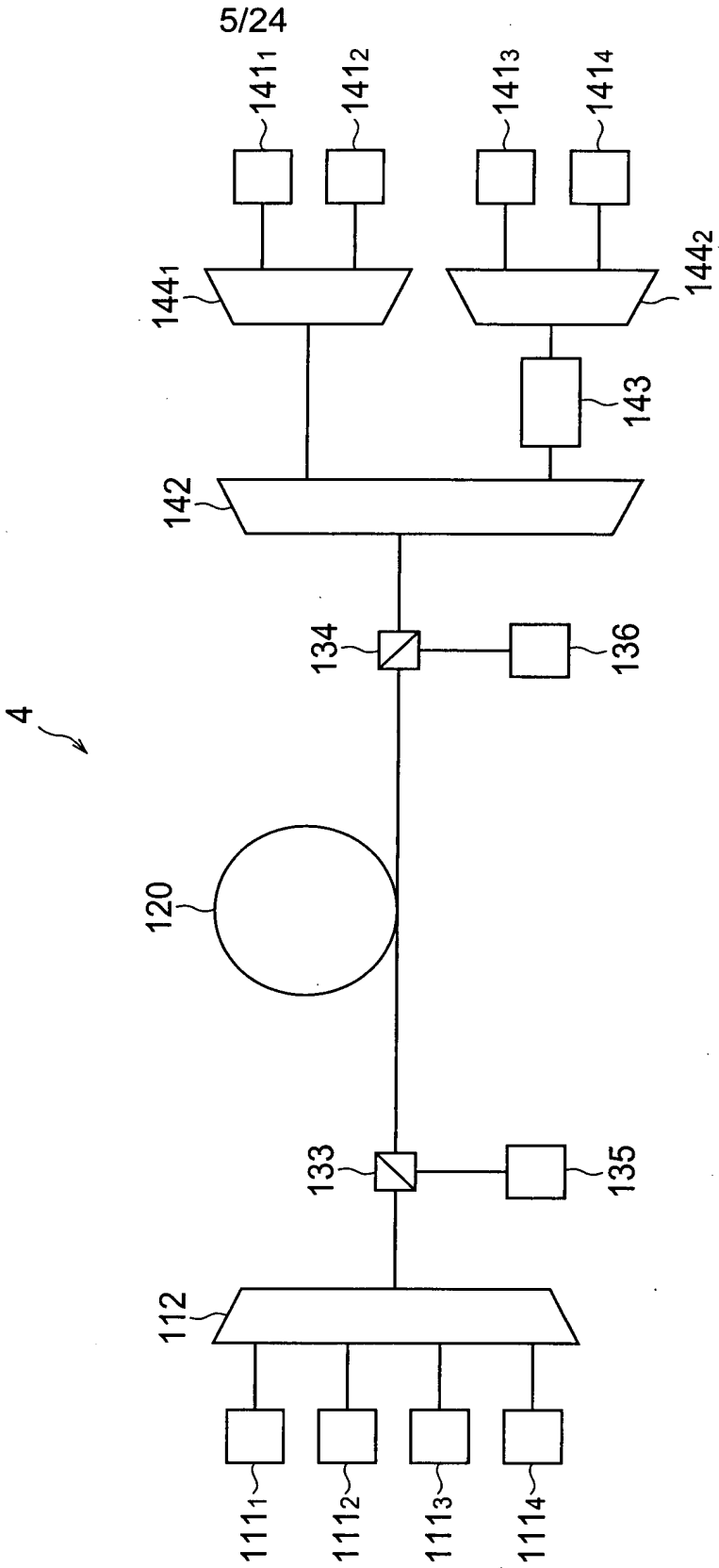
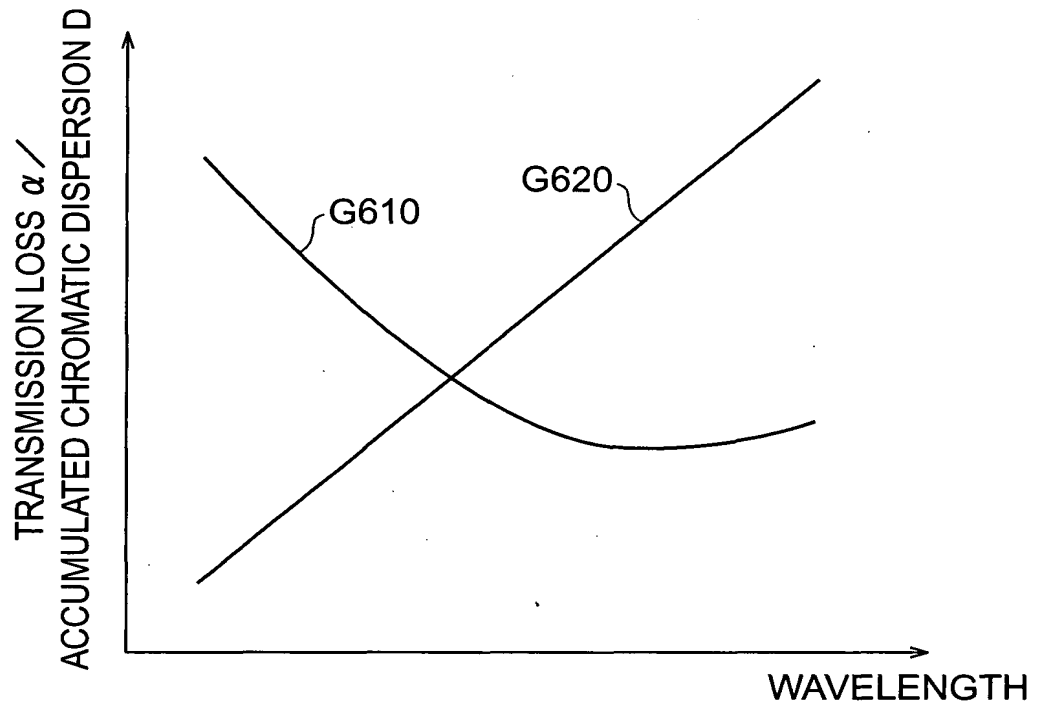
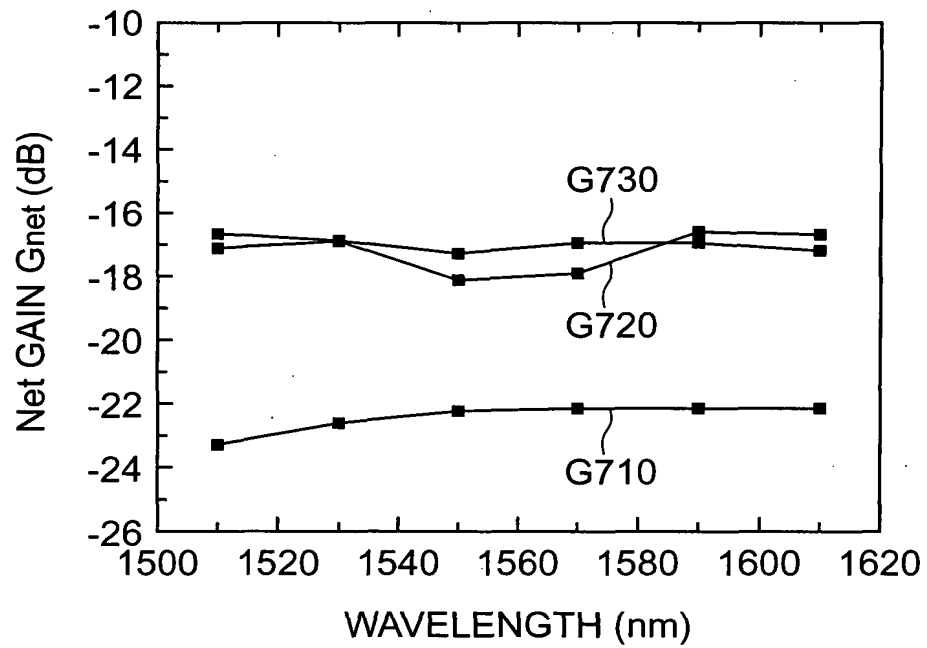


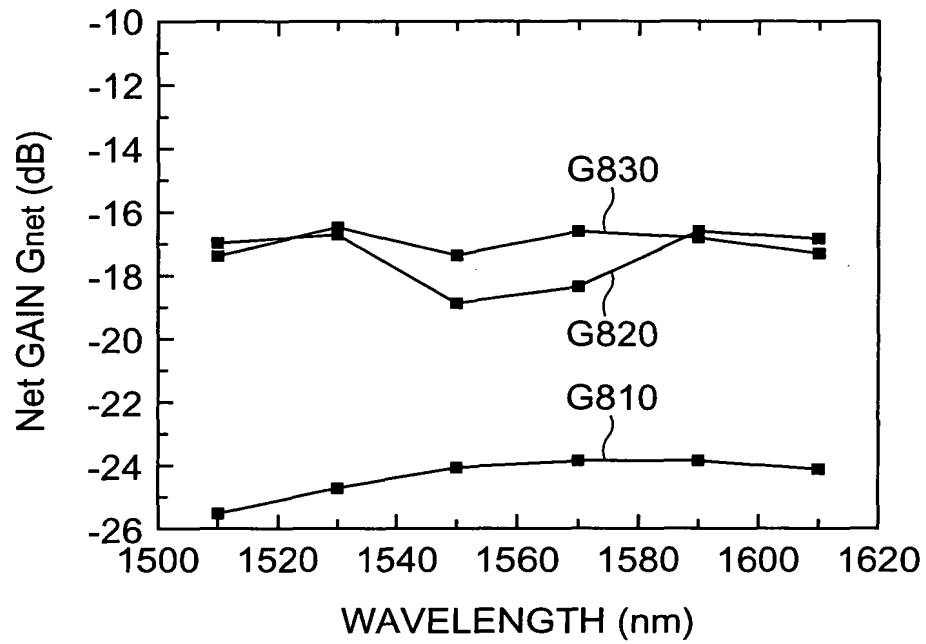
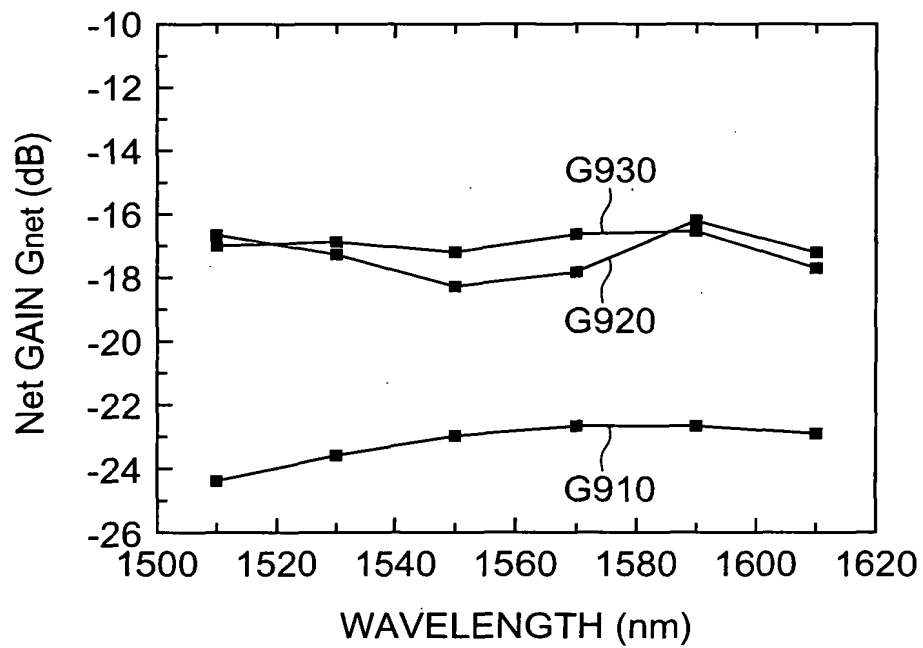
Fig.5



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Fig.6**Fig.7**

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Fig.8**Fig.9**

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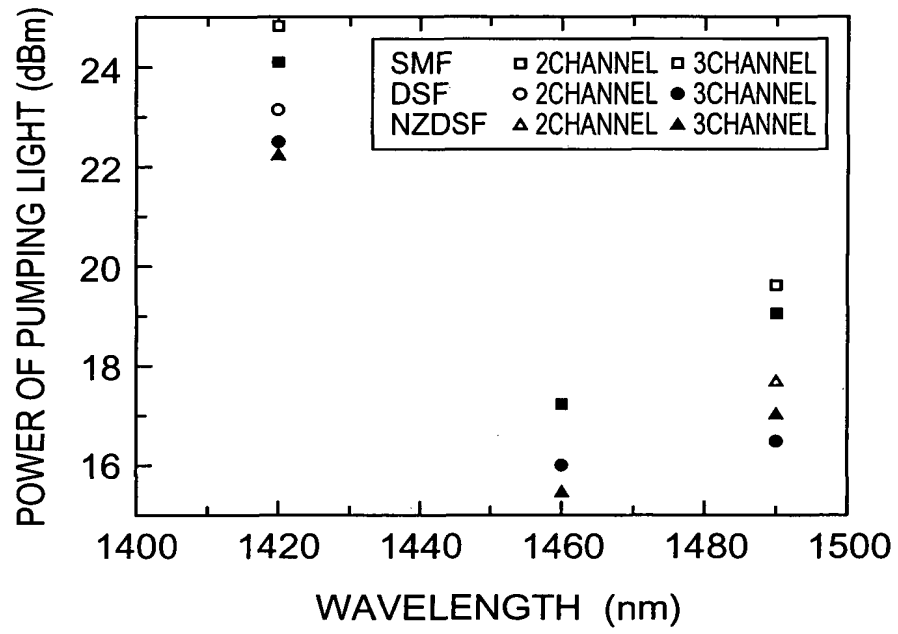
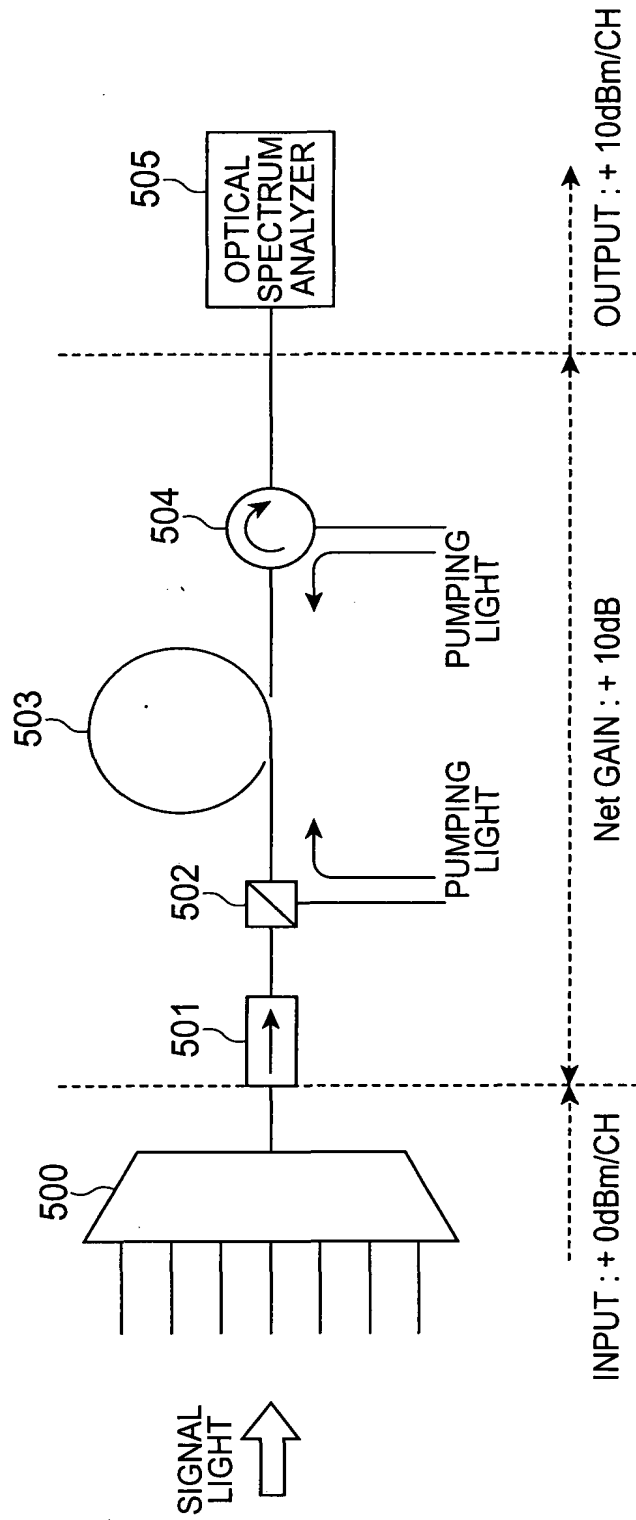
Fig.10

Fig.11



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Fig.12

PUMPING DIRECTION	WAVELENGTH (nm)	POWER (mW)
FORWARD	1360	211.6
BACKWARD	1360	613.8
	1390	235.5
	1405	11.2
	1430	11.4
	1460	6.6
	1500	23.8

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Fig.13A

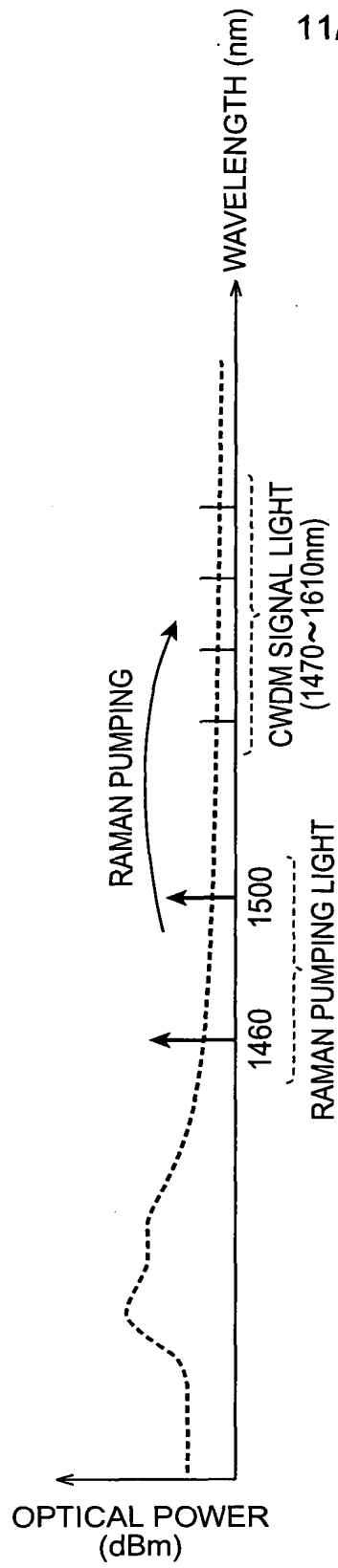
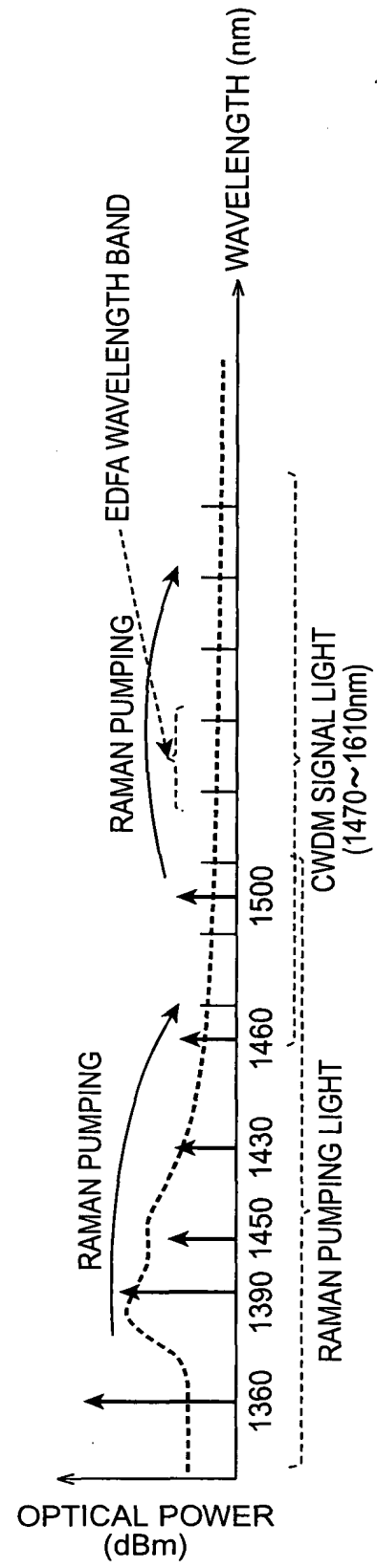


Fig.13B



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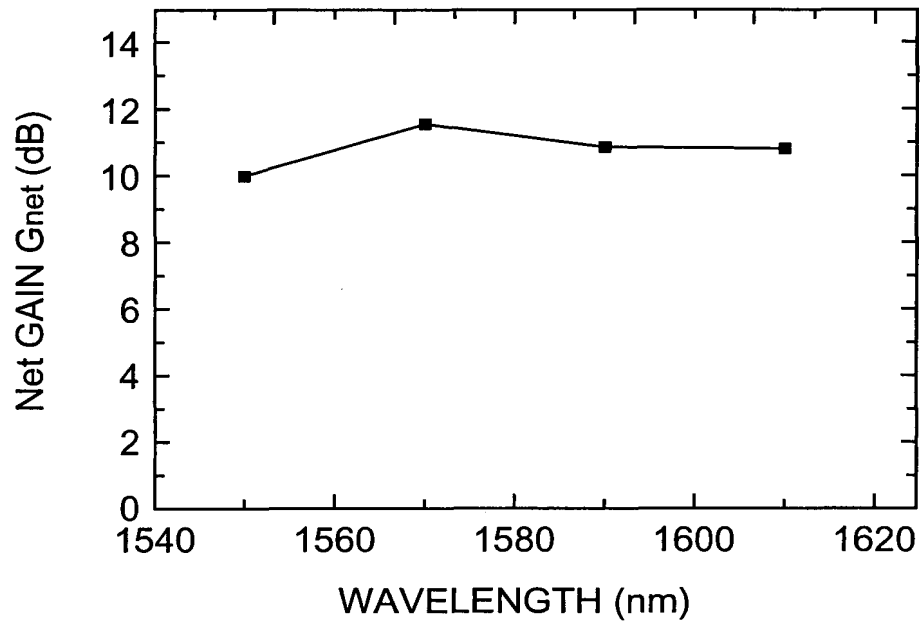
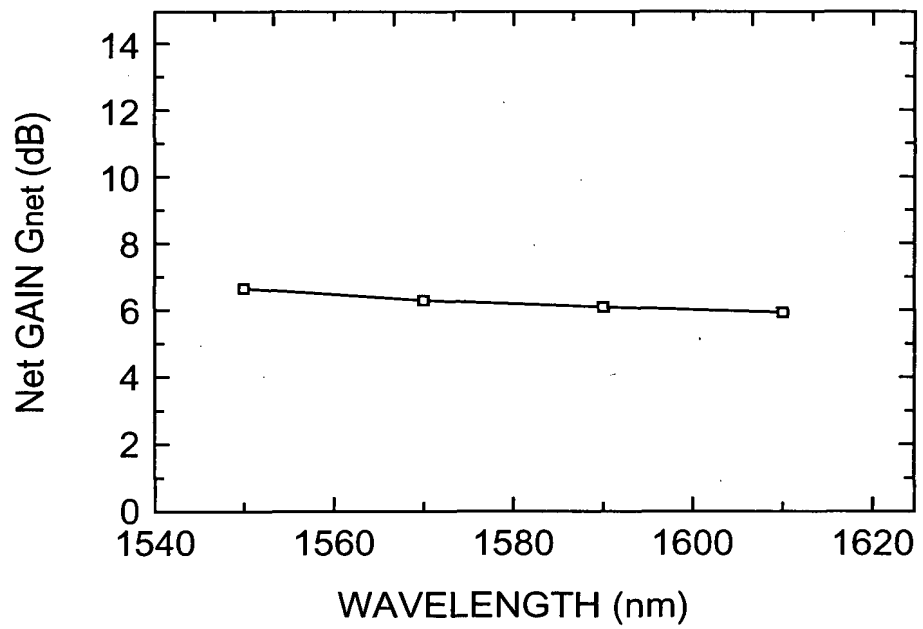
Fig.14A**Fig.14B**

Fig.15A

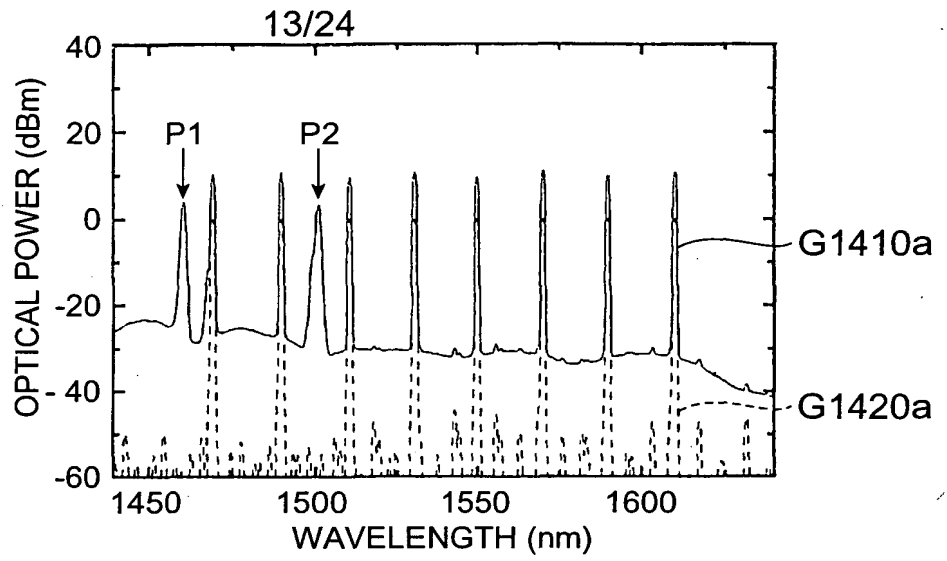


Fig.15B

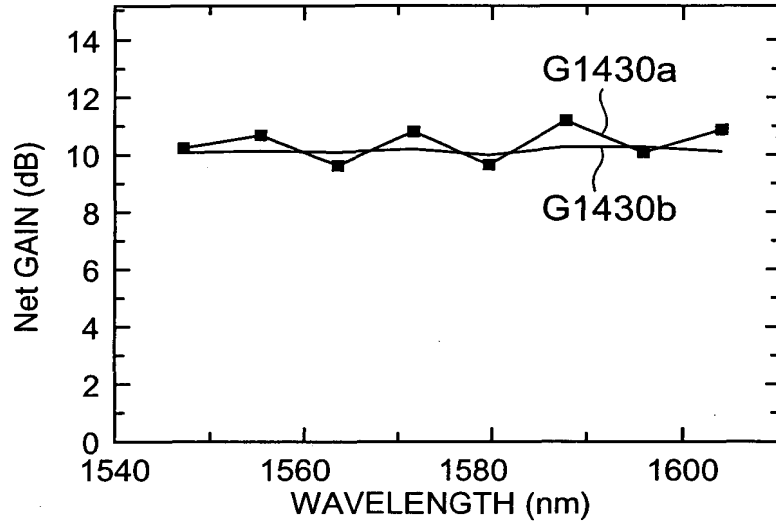


Fig.15C

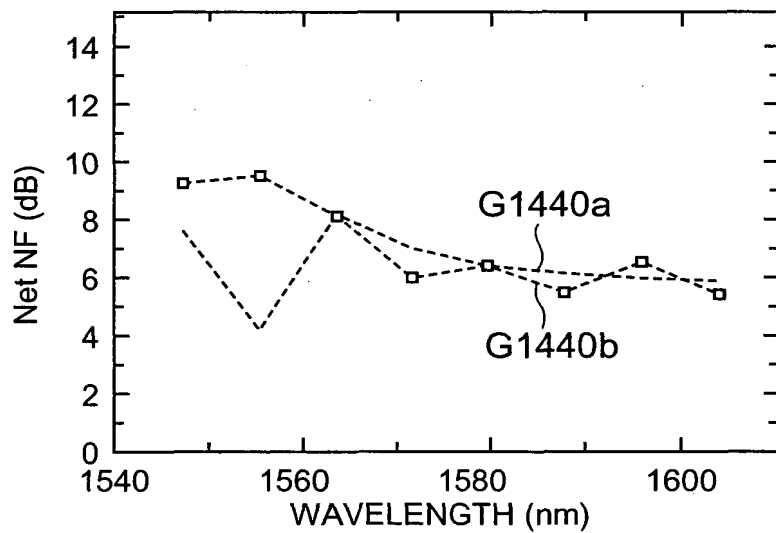


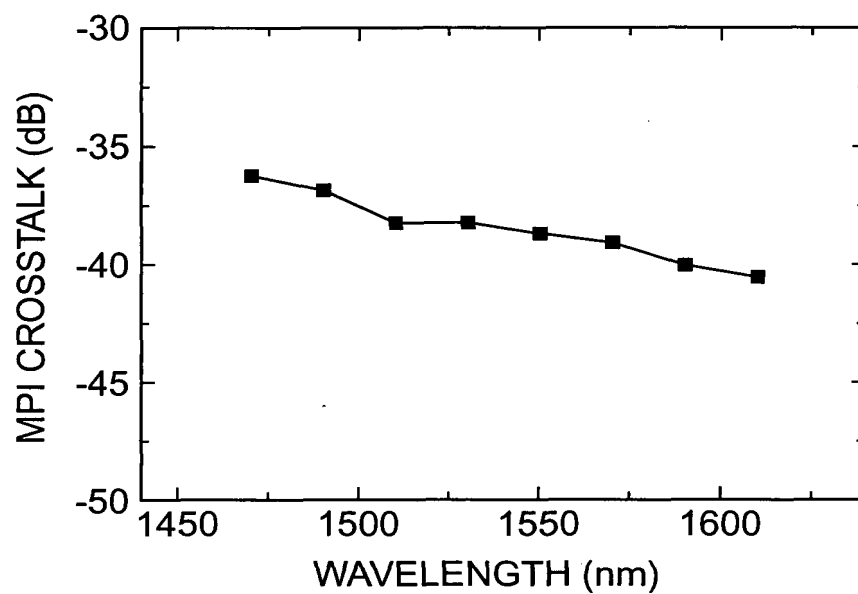
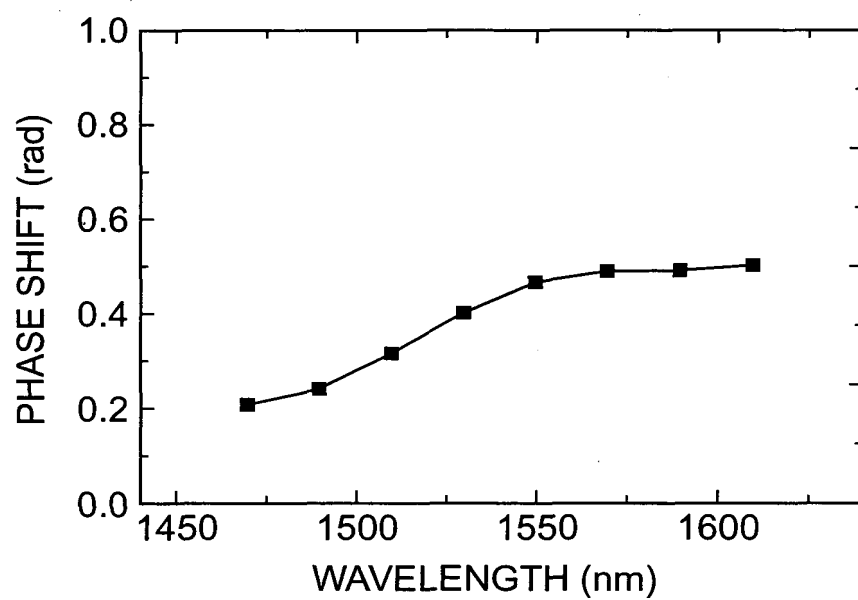
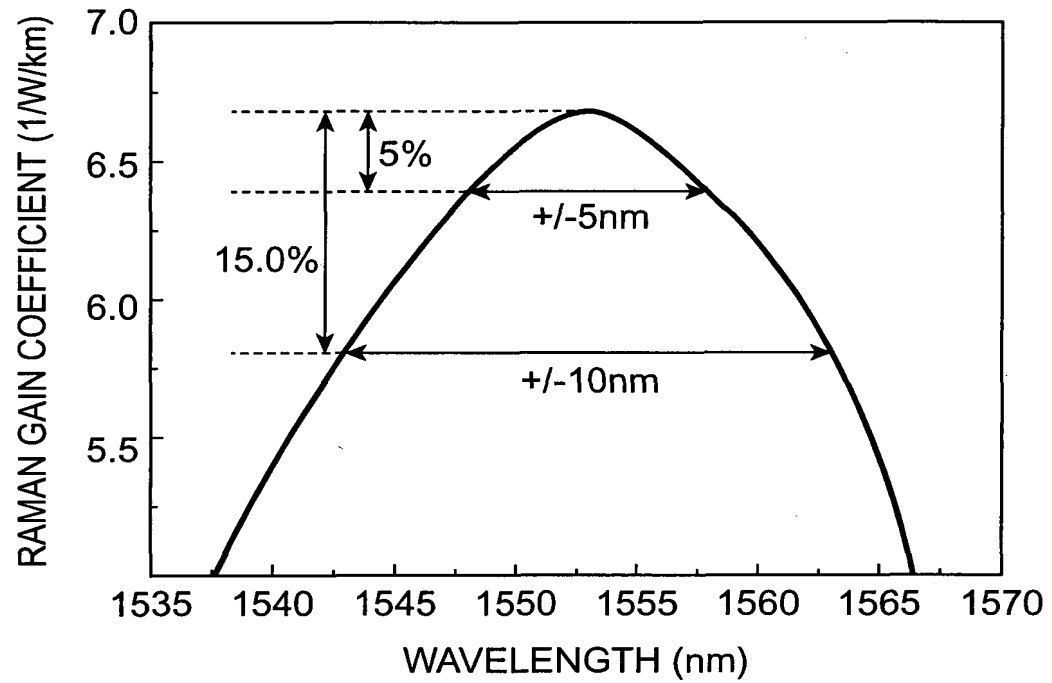
Fig.16A**Fig.16B**

Fig.17**Fig.18**

WAVE LENGTH OF SIGNAL LIGHT (nm) (CHANNEL SPACING:20nm)	WAVELENGTH OF PUMPING LIGHT (nm)
1470~1530	1387.5,1427.5
1550~1610	1457.5,1500
1510~1570	1422.5,1465

Fig.19

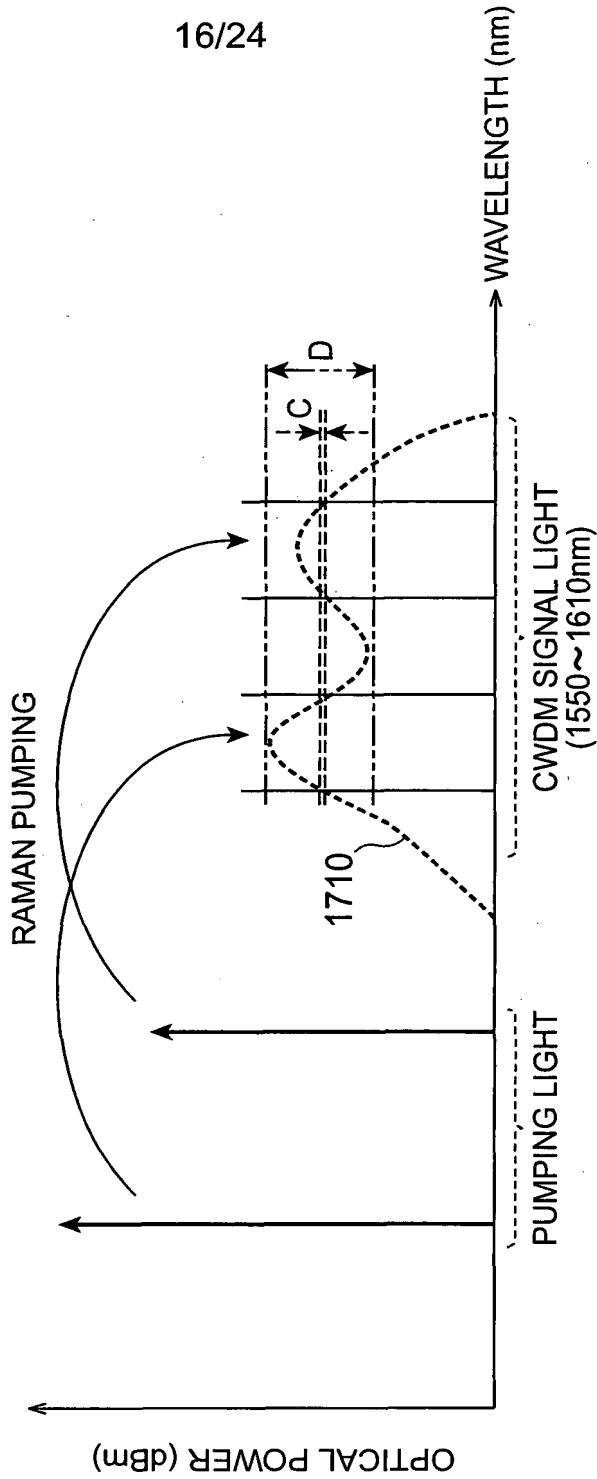


Fig. 20

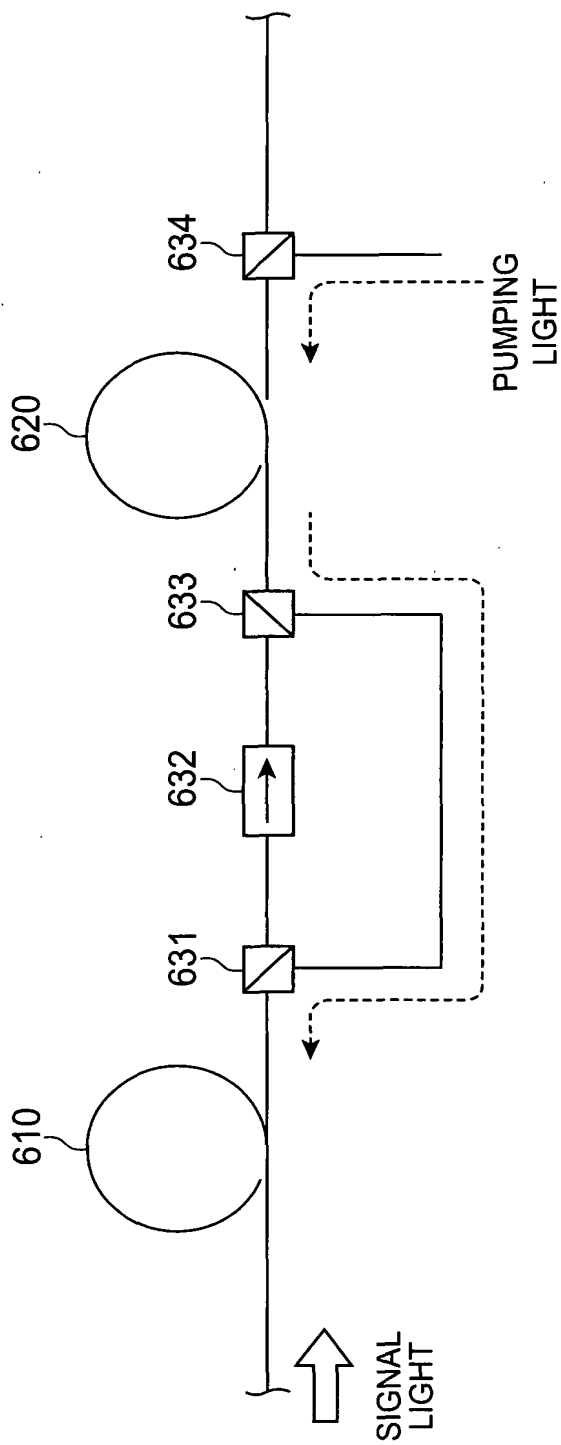


Fig.21

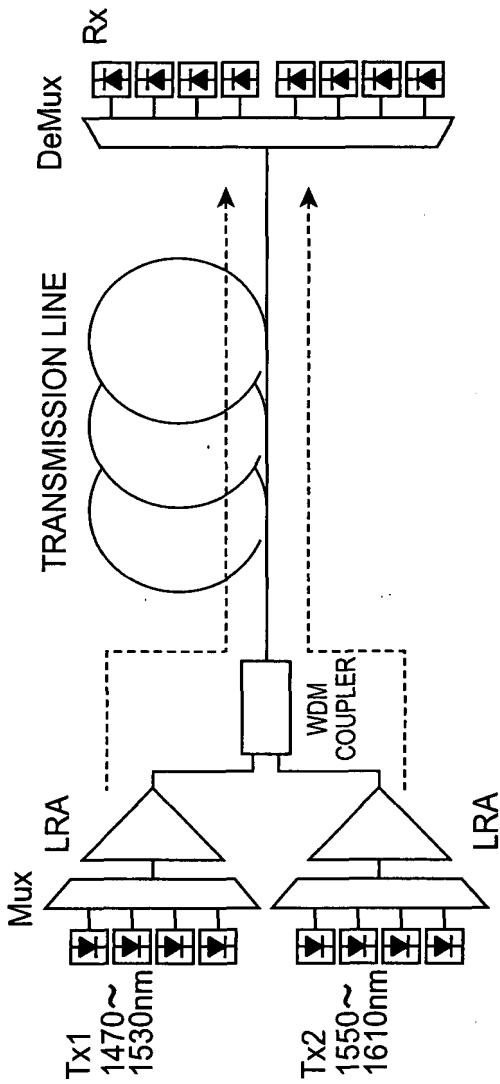


Fig.22

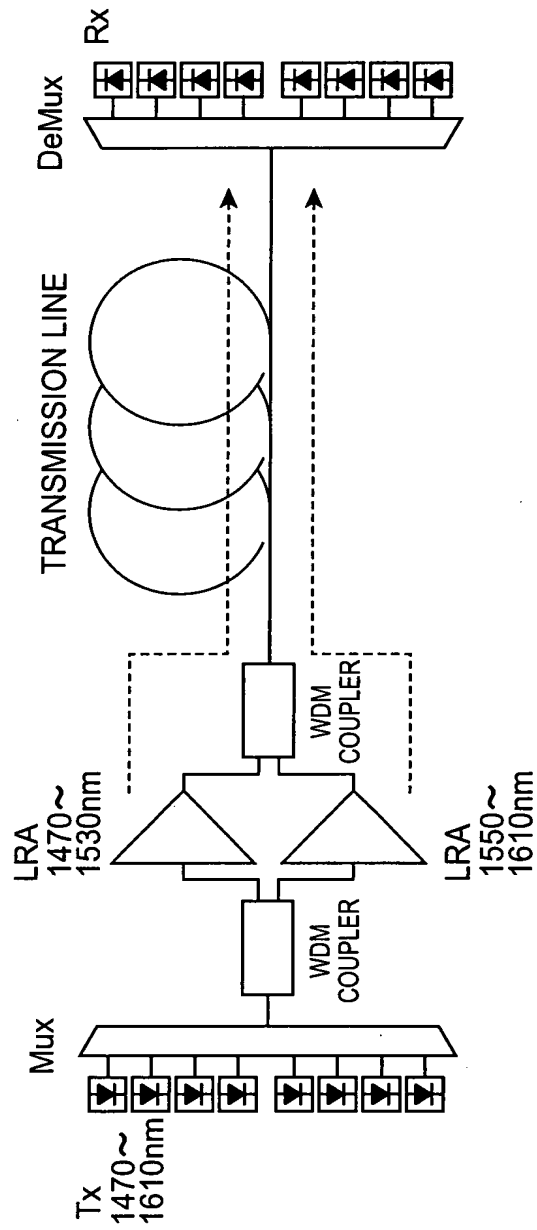


Fig.23

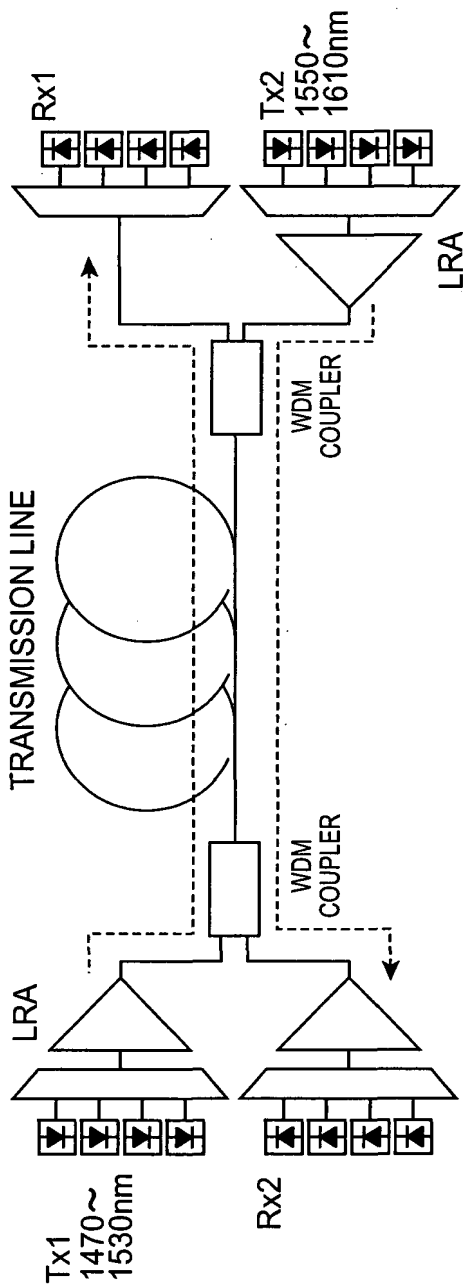


Fig.24

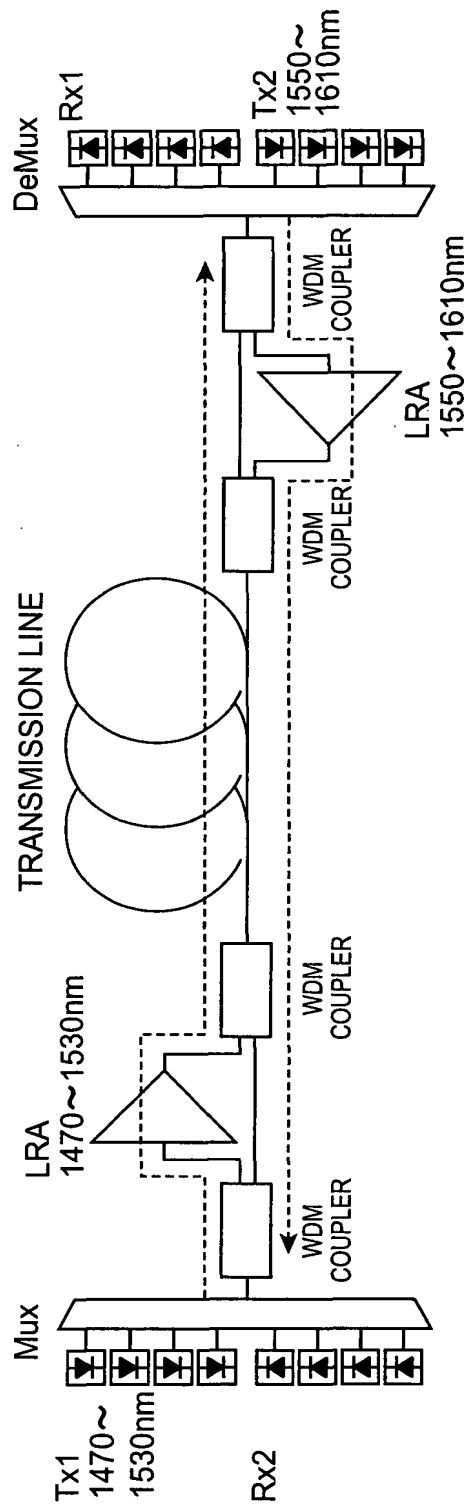


Fig.25

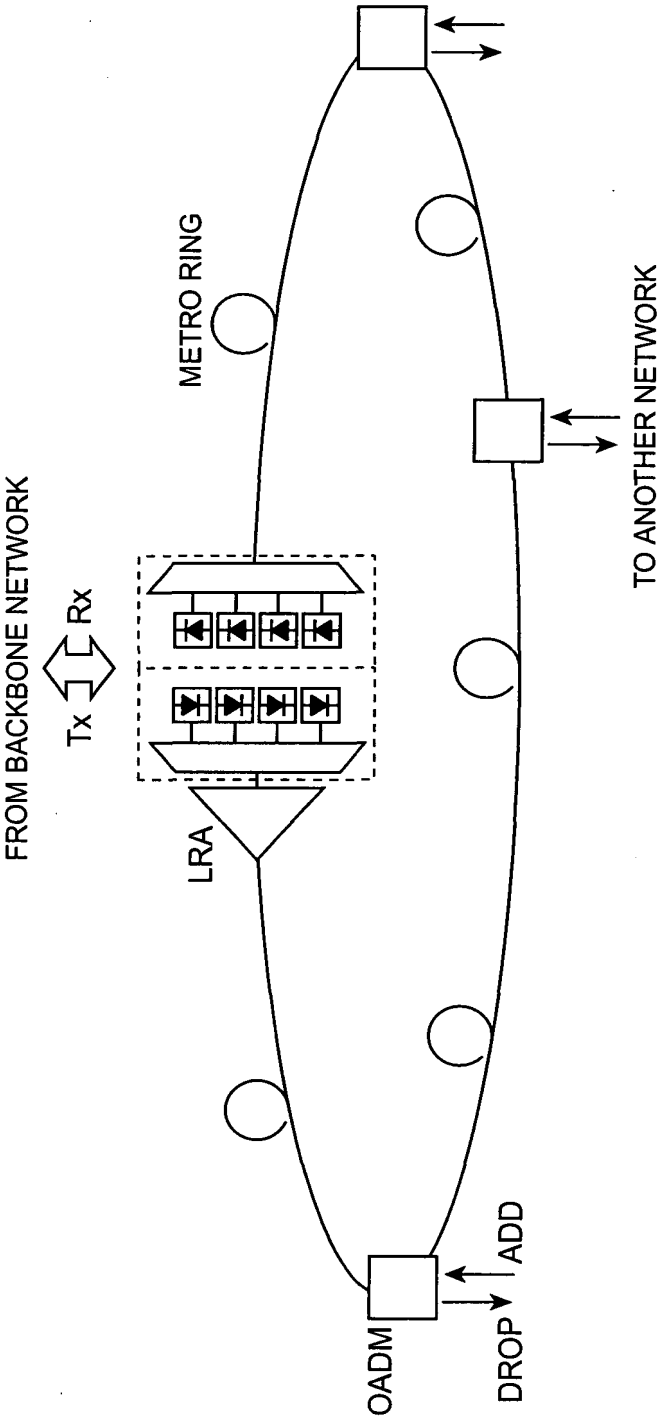


Fig.26

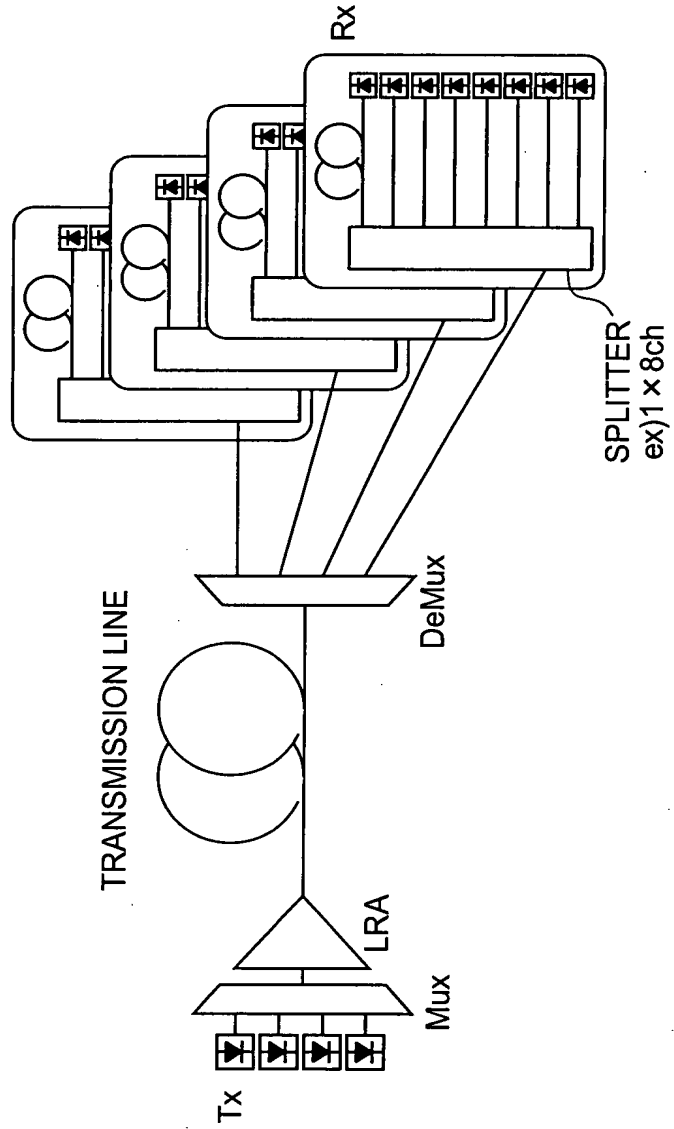


Fig.27

